DOCUMENT RESUME

ED 166 083 SO 011 434

AUTHOR Hantula, James
TITLE The Myth of Time.
PUB DATE Nov 78
NOTE 14p.; Paper presented at Annual Meeting of the National Council for the Social Studies (Houston, Texas, November 22-25, 1978)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Concept Formation; Concept Teaching; Creativity; Current Events; Educational Methods; Educational Practice; *Fundamental Concepts; Relativity; Scientific Concepts; Secondary Education; *Social Studies; Teaching Procedures; Thought Processes; *Time

ABSTRACT

This paper offers a variety of approaches to teaching the concept of time. Many social studies courses traditionally emphasize time as measured by clocks and as useful for recording when events occur in relation to each other. In addition to this approach, the author suggests that students should reflect upon four other modes of time. These are concepts of time as present, as past, as perspective, and as simultaneity and succession. A number of techniques can be used to illustrate these modes. Present, or short-term time, can be understood by focusing on specific activities of the moment. Comparisons of various reports of the same current event may be made. Although calendars, diaries, and time lines usually illustrate long-term time, biological interpretations of past time can be more personal. Students may chart their own or some other person's biorhythm, which is the innate cycle of physical, emotional, and cognitive rhythms. To direct thinking toward the problem of time as perspective, case studies of cultural concepts of time and creation are effective. Time as simultaneity and succession is imaginative time; it is the time in which events occur at the same time. Life studies, interviewing people about their concept of time, and examining allusions to time in literature provide understanding of imaginative time. Such transformations of student understanding result in the knowledge that time is a subjective concept and that individuals are the true source of time concepts. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED166083

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

James Hantula

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

THE MYTH OF TIME

By James Hantula

Paper presented at Annual Meeting of the National Council for the Social Studies (Houston, Texas, November 22-25, 1978).

SO-011434

The Myth of Time

James Hantula

In order to illustrate facts, to control them more effectively, to influence attitudes, and to inculcate values, educators use various devices. One of these devices is myth. Myth is a pretense that something is real when it is not. The functions of myth include: reconciliation of student consciousness with the world as it is; rendering the world according to an image; enforcement of a moral order; and reinforcement of an individual's integrity. As in the education of the ancients, myth is a lodestone in today's education.

Thanks to the media, myth is becoming increasingly important in the world of the elementary and secondary student. This world abounds with mysterious forces and demons. Currently popular are astrology, UFOs and psychic "reality." A recent television special explored the "unknown" by depicting the "reality" of psychic painting, psychic photography, communication with the dead, regression to an earlier time, levitation, fire walking, and psychic surgery. A popular movie described close encounters of the "third kind."

Less fanciful, perhaps, are the myths included in the social studies curriculum. One of the more common myths is the myth of time. Some teachers claim time is the monomyth around which the social studies curriculum revolves. Others treat time as a concept which organizes the past, present, and future. A few recognize time as a metaphor which is used for illustrative and explanatory purposes. In practice, however, a mask is often mistaken for the face of time.

In particular, the mask of clock time tends to be reified as a "fact of life."

Indeed, the official oracle for social studies teachers appears to sanction instruction only about the myth of clock time. The oracle's mandate is clear: social studies teachers "must provide for both an understanding of how time is measured and accumulation of specific, definite date-events which are useful as points of orientation."[1] Appropriate guidance is provided on "how to do it."[2] Examples of those who have done "it" are cited.[3] Research is conducted to confirm the continuing need to do "it" in the classroom.[4]

Curiously, inquiry into the widespread influence of this myth on the behavior of people is seldom recommended. Few examples are reported on investigations into the click-clunk of punch-in and punch-out clocks; the time-freeway known as the "six o'clock news"; the regularity of viewing television; the need for "keeping time" with the signal from Greenwich; the uniformity of time lines and reference systems; the blending of past, present, and future, the requirement of punctuality at school and work.

In contrast, when instruction does bring out wrinkles of inquiry on student faces, interrobangs of time expansion are activated.[5] Graphically represented by the merging of the exclamation and interrogation marks (‽), interrobangs are mental time variations from some state of equilibrium. Unlike digital watch time interrobangs are marks of "questioning-uncertainty." Often below the cognitive and perceptual thresholds of most students, interrobangs are time experiences outside of clock time.[6]

Unfortunately, many interrobangs in student experience are often dismissed with the observation that:

All things the living and countless lapse of time

Bring forth, displays, then hides once more in gloom.[7]

Accordingly, the temporal flow of events is taught to be irresistible, sublime, and infinite. The more intractable empirical findings drawn from experience are ignored in reverence for cultural ancestors.[3]

As a result, some learning activities about clock time become inductive lessons in the myth of fatalism. These learning activities invoke, incorrectly, the laws of logic in explaining events. The usual formulation of the law of the excluded middle, for example, is a synthetic proposition which makes the myth of fatalism appear to be reality. An analytic formulation, however, renders fatalism a myth. With this formulation, time is not learned as efficacious; without is not reinforced as the locus of control.[9]

To counter these baleful effects in learning about clock time, the teacher can bring out wrinkles of inquiry by providing opportunities for interrobangs of time expansion. These interrobangs enable students to reflect upon four modes of time:

Time as Present;

Time as Past;

Time as Perspective; and

Time as Simultaneity and Succession.

Time as Present is short term time; it is the time that is always now (or just then was now). Time as Past is long term time; it is the time that is duration. Duration is the normal experience of time passing, of hours lengthening, or shortening, or a recent event seeming a long time ago. Time as Perspective is cultural time; it is the time that is the temporal perspective of a particular culture. Time as Simultaneity and Succession is imaginative time; it is the

time in which events occur at the same time. Essentially, Simultaneity and Succession is immanent time.[10]

A variety of techniques and devices can be used to foster these interrobangs of time expansion. Interrobangs of short term time, for example, can focus of specific activities that are carried out now. A moment at lunch, an assembly, in a class, or at a game can be recalled by a drawing, photograph, video tape, or film. Storyboards can be created for recalling the events of the day, a field trip, or sequence followed in solving a problem. The storyboard can be in the form of pictures or a flow chart.[11]

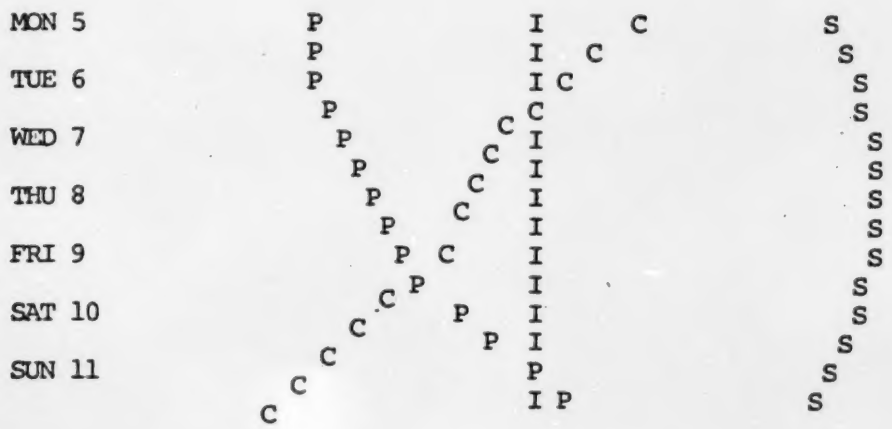
Virtually every current events discussion provides another opportunity for interrobangs of short term time. The discussion can be initiated with "news" articles. During the discussion, pseudo events can be distinguished from real current events. A report on a major current event by a "checkbook journalist," for example, can be compared with other reports of the same event to determine: (1) if the event is real and current, (2) which report describes the event best.

Techniques and devices for fostering long term time include calendars, diaries, time capsules, time lines, and time pieces. Too often, however, these interrobangs tend to encourage associations of abstractions with hypothetical eras. To achieve more meaningful associations, a useful technique is to direct individual inquiry into different topics of history. During the inquiry, students are required to invent an appropriate time system to classify the events under study.[12]

More personal are biological interrobangs of long term time.

Allegedly, biological clocks tick with invisible rhythms which "underlie most of what we assume to be constant in ourselves and the world around us."[13] The rhythms are repeatable, recurring cadences, flowing in life. Typically, three basic rhythms are identified: physical, sensitivity, and cognitive. Together, they make a bio-rhythm--an "innate, medically proven, physiological cyclic reality."[14]

A biorhythm begins on the day of birth and can be plotted for any period of time. A complete biorhythm includes, at a minimum, one cycle for each rhythm. A physical cycle (P) consists of twenty-three days, a sensitivity cycle (S) of twenty-eight days, and a cognitive cycle (C) of thirty-three days. Peak energies occur during a high phase of a cycle (+), limited energies during a low phase (-). The first day and median day (0) are critical days in each cycle.[15] A partial biorhythm is plotted below:



Birthday: January 9, 1913

Plot Starting Date: August 5, 1974

Resignation Date: August 9, 1974

Although of doubtful validity, a biorhythm does spark discussion of biological clocks in past and present. A personal biorhythm can be quickly plotted with the aid of reference books or a computer.[15] A biorhythm can also be plotted for others. The biorhythm plotted above, for example, is of former President Nixon during his last week in office. Using his biorhythm as a springboard for inquiry, students discover the biological explanation of his resignation is a moot question about the experience of time.

Interrobangs of cultural time can be effectively expanded in a case study. In the case study, distinctive commentaries from several Great Traditions are included. To stimulate learning, each commentary is drawn from a different medium. To develop effective thinking about the problem of cultural time, students are directed to describe, compare, and evaluate the commentaries. Using a taxonomy, sample questions are provided. During class discussion, explanations are evaluated as true, false, true or false.[16]

Illustrative of a case study of cultural time is "Time's Encomium." In this case study, relevant primary sources from the Great Traditions of Asia are identified. Extracts from the Great Traditions of China, India, and Japan are replicated. The extracts include a description of the Five Agents (China), a description of Brahama's bringing upon the time of universal dissolution (India), and several haiku pertaining to the seasons (Japan). The extracts are compared to an American view of time expressed by examples of electronic music.[17]

A similar approach is used in a case study entitled "In the Beginning." In this case study, relevant primary sources from the Great Traditions of Europe are identified. Extracts from the writings

of selected ancient Greek and Roman philosophers are replicated. The extracts include a description of the Law of Change (Heraclitus), the creation of time (Plato Timaeus), time as measure (Aristotle Physics Book IV), time and eternity (Plotinus Third Ennead). The extracts are compared to the views in Genesis and St. Augustine (The Confessions, Book 11).[18]

Interrobangs of imaginative time enable students to construct the same temporal events simultaneously in different ways. With the acquisition of language and verbo-motor concepts, these interrobangs are reconstructed into concepts as soon as the order of successions is deduced from the colligation of duration and vice versa. Understanding these concepts is tantamount to freeing oneself from the present and imagining time is reversible; time can be retraced in either direction.[19]

Student imagination about time can be expanded by reflecting upon relevant literary expressions. Poetry, for example, abounds with imaginative allusions to time. With appropriate guidance by the teacher, students are "turned on" with the following poetic expressions of sacred and profane time.

> It is not in time that my death shall be known:
> It is out of time that my decision is taken
> If you call that decision
> To which my whole being gives entire consent.[20]
>
> Goodness me, the clock has struck
> Alackday, and fuck my luck.[21]
>
> ---
>
> and in a mystery to be
> (when time from time shall set us free)
> forgetting me, remember me[22]

Expressions of time awareness can be drawn from other disciplines for student reflection.[23]

Interrobangs of imaginative time can also be expanded through life studies of a person's view of time. Examples of life studies can be provided by the teacher or, preferably, written by students. In writing a life study, a student interviews a significant other. The interview includes discussion of the following questions:

> Is the past, present, or the future more important to you?
>
> Do you think there is a connection between the past, present, and future?
>
> What is one word which you associate most often with the word "time"?

The student's task is to observe, describe, and record accurately the interview. The validity of the life study is checked by the person under study.[24]

Student insight into time can be extended further by translating the time perspectives described in life studies into pertinent hypotheses for inquiry. The hypotheses may include:

1. The past is more important to males than females.
2. Junior high school and senior high school students think there is a connection between the past, present, and future.
3. The word which is most often associated with the word "time" is the word "clock."[25]

Subsequent inquiry proceeds in two stages: gathering relevant information, supporting descriptions, and appropriate criteria; testing the hypothesis and making a warranted generalization.

Reinforced with other techniques and devices, interrobangs are

catalysts for extending skills in processing information about short term, long term, cultural, and imaginative time. Affective skills are extended by identifying the diverse images which dot the firmament of time. Cognitive skills are extended by testing hypotheses and using analytic explanatory principles. These skills are springboards to understanding mind as fallible and permanence as a concept.[26]

Genuine transformations of student understanding result in recognition of the mystery of time as the mystery of individuals. The mystery is that the world is as it is--the source of joy and sorrow, hope and fear, creative and degenerative development. Its contingency, into which time enters, is congruous with individuals. Individuals determine the quality of life in the world and the direction of change. Individuals are the source of creativity.[27] In their faces, wrinkles of inquiry are actualized by interrobangs of time.[28]

Notes

1. National Council for the Social Studies Yearbook (Washington, D.C.: National Council for the Social Studies, 1963). This mandate is repeated from an earlier Yearbook (1953) and in a later Yearbook (1965).
2. National Council for the Social Studies "How to Develop Time and Chronological Concepts," How To Do It Series, 22 (Washington, D.C.: National Council for the Social Studies, 1964.)
3. One example is Frank Keetz "A Case for Time Perspective," Social Education, March 1972, pp. 238-241.
4. A brief summary of research is provided by Joseph Decaroli "Time and Chronology," Social Education, March 1972, pp. 312-313.
5. Thomas J. Bruneau, "Time and Nonverbal Communication," Journal of Popular Culture, Winter 1974, pp. 658-666.
6. Other uses of time which merit inquiry are described in David F. Gillespie and Alden E. Roberts "The Use of Time in the Study of Popular Culture," Popular Culture Methods, 3, 1975, pp. 5-7.
7. Sophocles, Ajax, 646-647.
8. See Elizabeth L. Eisenstein in "Clio and Chronos," History and the Concept of Time (Middleton, Connecticut: Wesleyan University Press, 1966), pp. 36-64.
9. See the discussion of the law of the excluded middle by Stephen M. Cahn, Fate, Logic, and Time (New Haven: Yale, 1967).
10. These modes are described further by Robert E. Ornstein, On the Experience of Time (Baltimore, Maryland: Penguin Books, 1969), Chapter 1. A different perspective on time is provided by John E. Orme, Time (New York: American, 1969).

11. Many more techniques are suggested by James V. Bruni and Helen J. Silverman, "Developing Intuitive Ideas About Time," The Arithmetic Teacher, December 1976, pp. 582-591.
12. This technique has been attributed to Sigmund Diamond who used it in teaching a class in American history. Noted by Siegfried Kracauer, "Time and History," History and the Concept of Time (Middleton, Connecticut: Wesleyan University Press, 1966), p. 68.
13. "Biological Clocks," Today's Education, October 1971, p. 40.
14. This claim is made by Rosemarie Stewart in The Best Days of Your Life (New York: Pyramid Books, 1977), p. 9.
15. Directions for making a biorhythm are included in Ibid. A biorhythm can easily be generated on a Hewlett-Packard 2000 computer by using the "BIOSIN" produced at the Lawrence Hall of Science (Berkeley, California: Regents of the University of California, 1971).
16. A useful source of commentaries is J. T. Fraser, ed., The Voices of Time (New York: Braziller, 1966).
17. A case study drawn from the Great Traditions of Asia is provided by James Hantula in "Time's Encomium," Focus on Asian Studies, Spring 1977, pp. 17-20. Additional commentary on the Hindu and Buddhist tradition in India is provided in S.G.F. Brandon, History, Time and Diety (New York: Barnes, 1965) Chapter 1.
18. Alternative extracts for the case study "In the Beginning," are the "Epicycles" of myths, stories, and parables in Parabola, 2, 1977, pp. 41-51. Also see Charles M. Sherover, The Human Experience of Time (New York: New York University Press, 1975).

19. Jean Piaget, The Child's Conception of Time (New York: Basic Books, 1927).
20. Quoted from Thomas Becket in Maurice Friedman, To Deny Our Nothingness (New York: Delacorte, 1967), p. 105.
21. Kurt Vonnegut, Jr., Slaughterhouse Five (New York: Delacorte Press, 1969), p. 85.
22. E. E. Cummings, "In Times of Daffodils Who Know," 95 Poems (New York: Harcourt, Brace & World, 1958), p. 16.
23. A useful source of expressions of time awareness in various disciplines is J. T. Fraser, Of Time, Passion, and Knowledge (New York: Braziller, 1975).
24. Examples of life studies are noted in Thomas J. Cottle and Stephen L. Klineberg, The Present of Things Future (New York Free Press, 1974).
25. Other hypotheses are suggested by Leonard W. Doob, Patterning of Time (New Haven: Yale University Press, 1971). Some of these hypotheses have been tested in research. Differences, for example, between males and females were investigated by Thomas J. Cottle, Perceiving Time (New York: John Wiley, 1976).
26. According to S. Toulmin, Discovery of Time (New York: Harper, 1965), the view that permanence is only a concept is the modern view.
27. John Dewey, "Time and Individuality," Time and Its Mysteries, Series II (New York: New York University Press, 1940).
28. An example of a real individual whose inquiry was actualized by interrobangs of time was Alan Watts. His inquiry is recorded in Time (Millbrae, California: Celestial Arts, 1975).